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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,994	11/09/2001	Peter J. Janssen	PHUS010506	1293

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[REDACTED] EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/052,994

Applicant(s)

JANSSEN, PETER J.

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 November 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-12 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

4) Interview Summary (PTO-413) Paper No(s) _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-8 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hatano et al. (USPN 6,320,629 B1).

With respect to claims 1-5, as shown in Fig. 1, Hatano et al. discloses an LCD system capable of fast mode operation with high contrast, said system comprising:

a) a source of polarized lights (col. 10, line 55 to col. 11, line 23) ;

b) an LC cell 100 having a surface upon which said light is incident; and

c) contrast enhancement means 103, 106, 107, 108 and 111 for reducing or

rendering harmless reflections of said light at said surface tending to degrade contrast (col. 8, lines 1-22 and 36-49),

wherein said cell includes LC bulk material 103 contained between and adjoining an upper and a lower glass substrate 101a and 102a, said upper substrate 101a having said surface.

wherein said contrast enhancement means comprise an optically anisotropic intermediate layer interposed between said upper substrate and said LC material (col. 10, lines 12-26), and

wherein said intermediate optically anisotropic layer is a photopolymerizable liquid crystal material (col. 10, lines 12-26) having a predetermined director profile (col. 8, lines 12-22).

With respect to claim 11, as shown in Fig. 12, Hatano et al. discloses an LC light valve capable of operation with high contrast in fast operating modes, including ECB (col. 27, lines 43-44), said light valve comprising:

- a) upper and lower glass substrates 11 and 22 having opposed surfaces in spaced, parallel planes;
- b) a layer of LC material 621 interposed between said opposing surfaces and adjoining said lower substrate; and
- c) an intermediate layer 618 of LC polymer material interposed between and adjoining each of said upper substrate and said LC material, said LC polymer material having a particular director profile such that the light valve is subject to a strong bias when TFTs are in OFF state (col. 27, lines 24-30 and 43-64).

With respect to claims 6-8, as to the product-by-process limitation "wherein said optically anisotropic intermediate layer is evaporated obliquely between said upper and

lower glass substrates" recited in claim 6, "wherein said optically anisotropic intermediate layer is etched by an oblique particle beam" recited in claim 7, and "wherein said optically anisotropic intermediate layer is milled" recited in claim 8, it has been recognized that "Even through product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process". *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). See also MPEP 2113.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatano et al. (USPN 6,320,629 B1) in view of Woo et al. (USPN 6,191,836 B1).

Hatano et al. discloses a LCD system (or an LC light valve) that is basically the same as that recited in claims 9, 10 and 13 except for an LC bulk material having a pretilt of between about 45° and 90° on the side adjoining said upper substrate and a pretilt of less than 10° on the side adjoining said lower substrate and . As shown in Fig. 10e, Woo et al. discloses a method for fabricating a liquid crystal display cell and related device wherein one alignment layer alignment is aligned in a homeotropic mode

and the other alignment layer is aligned in a homogeneous mode (col. 6, lines 19-22) so as to obtain a wider view angle for the display (col. 2, lines 21-27). Accordingly, the intermediate layer may have a pretilt of less than 10° from the direction parallel to the opposing surfaces. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD system of Hatano et al. with the teaching of Woo et al. by forming an LC bulk material having a pretilt of between about 45° and 90° on the side adjoining the upper substrate and a pretilt of less than 10° on the side adjoining the lower substrate to improve the display view angle.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatano et al. (USPN 6,320,629 B1) in view of EP 0604903 A2 (EP'903).

Hatano et al. discloses an LC light valve that is basically the same as that recited in claim 12 except for reflections of incident light reduced due to gradual transition of refractive index from said upper substrate to said boundary layer to said LC material adjoining said boundary layer. EP'903 discloses that in order to improve the display quality of a liquid crystal display panel, all the differences of the index of refraction of between adjacent layers at interfaces between two substrates are set to be 0.2 or less (page 3, lines 35-42, see also Table 1). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LC light valve of Hatano et al. with the teaching of EP'903 by having gradual transition of refractive index from the upper substrate to the boundary layer to the LC material adjoining said boundary layer for reducing reflections of incident light and hence improving the display quality.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong



05/29/2003



Robert Kim
Supervisor
May 29, 2003